

09/446,320

IN THE CLAIMS

Please cancel claims 1, 10 and 11; amended original claims 2-9; and add new claims 12-14 all as shown below.

1. (Canceled)

2. (Currently Amended) The redundant ~~Redundant~~ serial bus of
according to Claim 12 ~~1~~,

~~characterized~~

~~in that wherein~~ the input stage ~~(311)~~ has means for
synchronization and filtering.

3. (Currently Amended) The redundant ~~Redundant~~ serial bus of
claim 12 ~~according to one of Claims 1 and 2,~~

~~characterized~~

~~in that wherein~~ the input stage ~~(311)~~ has means for
serial/parallel conversion.

4. (Currently Amended) The redundant ~~Redundant~~ serial bus of
according to Claim 3,

~~characterized~~

~~in that wherein~~ the output stage ~~(311)~~ has means for
parallel/serial conversion.

5. (Currently Amended) The redundant ~~Redundant~~ serial bus of
according to Claim 12 ~~1~~,

~~characterized~~

~~in that wherein~~ the means in said evaluation stage ~~(312)~~
~~has means~~ for determining criteria ~~evaluation~~ of the
data stream, also includes means for time evaluation,
for assessment of the state of the receiving lines and
for line selection.

6. (Currently Amended) The redundant ~~Redundant~~ serial bus of
claim 12 ~~according to one of Claims 1 to 5,~~

~~characterized~~

~~in that wherein~~ the redundancy means ~~(3)~~ which can be
connected upstream can be permanently set to one bus line
~~(11, 12)~~ on the receiving side.

7. (Currently Amended) The redundant ~~Redundant~~ serial bus of
claim 12 ~~according to one of Claims 1 to 5,~~

~~characterized~~

~~in that wherein~~ the redundancy means (3) which can be connected upstream, can be permanently set to one bus line (11, 12) on the transmitting side.

8. (Currently Amended) The redundant ~~Redundant~~ serial bus of according to Claim 7,

~~characterized~~

~~in that wherein~~ each driver (321) comprises a gate circuit for muting the driver output.

9. (Currently Amended) The redundant ~~Redundant~~ serial bus of claim 12 ~~according to one of Claims 1 to 8,~~

~~characterized~~

~~in that wherein~~ at least one selected bus subscriber (2) is equipped with a diagnosis interface (201) for connection of control lines (5),

~~in that the evaluation stage (312) of the redundancy means (3) which can be connected upstream is equipped with connections for connection of control lines (5), and~~

~~in that the gate circuits of the drivers (321) have control inputs which are connected by means of control lines (5) to the diagnosis interface (201).~~

10. (Canceled)

11. (Canceled)

12. (New) A redundant serial bus having $n > 1$ parallel bus lines for redundant networking of bus subscribers each having a single bus communications interface, comprising:

a redundancy means, which can be connected upstream, having n interfaces for connection to said n parallel bus lines and one interface for connection to the single bus communications interface of at least one bus subscriber,

said redundancy means which can be connected upstream having a receiving end comprising an input stage at least for each of said bus lines, an evaluation stage and an output stage for all the bus lines,

the evaluation stage has means for determining criteria of

09/445,320

a data stream other than the presence or absence of data for a period of time and for selecting one of the bus lines as the receiving line based on said criteria, and

the redundancy means which can be connected upstream having a transmitting end comprising a driver for each of said bus lines.

13. (New) In a redundant serial bus having $n > 1$ parallel bus lines for redundant networking of bus subscribers each having a single bus communications interface, comprising:

a redundancy means, which can be connected upstream, having n interfaces for connection to said n parallel bus lines and one interface for connection to the single bus communications interface of at least one bus subscriber,

said redundancy means which can be connected upstream having a receiving end comprising an input stage at least for each of said bus lines, an evaluation stage and an output stage for all the bus lines,

the evaluation stage has means for determining criteria of a data stream other than the presence or absence of data for a period of time and for selecting of one of the bus lines as the receiving line based on said criteria, and

the redundancy means which can be connected upstream having a transmitting end comprising a driver for each of said bus lines;

a method for operating said redundant serial bus, comprising:

sending, during operation, identical message packets in parallel and at the same time to all of said bus lines,

receiving the identical message packets on all of said bus lines in parallel by the redundancy means which can be connected upstream,

checking the determined criteria of the data streams of the received message packets; and

selecting depending on the determined criteria, one of the bus lines, whose data stream is passed on to the connected bus

09/446,320
subscriber.

A1
Cont 14. (New) The method of claim 13 further comprising sending and receiving said message packets on one of said bus lines in order to diagnose the redundant serial bus for a selected one of said at least one bus subscribers.